INSECTS OF MICRONESIA

Coleoptera: Lampyridae, Cantharidae, Malachiidae, Prionoceridae[1]

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The United States Office of Naval Research, the Pacific Science Board (National Research Council), the National Science Foundation, and Bernice P. Bishop Museum have made this survey and the publication of the results possible. Field research was aided by a contract between the Office of Naval Research, Department of the Navy, and the National Academy of Sciences, NR 160-175.

The following symbols indicate the institutions in which specimens are stored: US (United States National Museum), BISHOP (Bishop Museum), and CM (Chicago Natural History Museum).

LAMPYRIDAE

Genus **Atyphella** Olliff

Atyphella Olliff, 1890, Linn. Soc. New South Wales, Proc. II, **4** (3) : 645 (type: *A. lychnus* Olliff, New South Wales).—A. M. Lea, 1909, Ent. Soc. London, Trans. **1909** : 110.—E. Olivier, 1911, Soc. Ent. France, Bull. **1911** : 171.

Australia, New Guinea, New Britain, Solomon Is., Buru I., Caroline Is.

1. Atyphella carolinae E. Olivier.

Atyphella carolinae E. Olivier, 1911, Soc. Ent. France, Bull. **1911** : 173.—Blair, 1940, B. P. Bishop Mus., Occ. Papers **16** : 134.

Black, prothorax and scutellum brown or reddish brown, former very often with a dark patch on disc, which in some cases leaves only a very narrow border all around. Suture and sides of elytra very seldom, slightly and very narrowly rufous. Under surface light brown, last two abdominal segments yellow, luminous; first two segments brown,

[1] This represents, in part, Results of Professor T. Esaki's Micronesian Expeditions (1936-1940), No. 91.

while segments between are usually much darker than first two. Head and prothorax quite strongly rugose-punctate, latter broader than long, with sides slightly rounded and narrowed toward anterior angles. Elytron rugose with two quite distinct costae near suture. Last ventral segment elongate. Length: 6-7 mm.

DISTRIBUTION: Western Caroline Is. (Palau, Yap).

PALAU. ANGAUR: Apr.-May 1936, Kondo.

YAP. YAP: Hill behind Yaptown, 50 m., Dec. 3, 1952, in light trap, Gressitt; Guillifez-Rul, Sept. 8, 1939, Esaki; Nov. 30, 1937, Haneda.

Distributional List of Micronesian Lampyridae, Cantharidae, Malachiidae, Prionoceridae

	Micronesian Island Groups							Other Localities
		Caroline						
	S. Mariana	Palau	Yap	Caroline Atolls	Truk	Ponape	Kusaie	
Lampyridae								
1. Atyphella carolinae		×	×					
2. A. c. palauensis*		×						
Cantharidae								
1. Caccodes marquesanus	×	×		×		×	×	Marquesas
Malachiidae								
1. Carphurus reductipennis*	×					×		
2. Laius marchei	×							
3. L. cyaneus							×	East Indies to New Caledonia
Prionoceridae								
1. Prionocerus caeruleipennis		×	×	×				East Africa, South and East Asia

* Described as new.

2. A. carolinae subsp. **palauensis** Wittmer, n. subsp.

This name is proposed for a form found on Peleliu and Koror. The size is smaller than the typical form (5.5 to 6.5 mm.). The elytra are testaceous, with the base and the tips narrowly dark brown; infrequently the dark tips are absent, or the basal and the apical spots are connected along the suture.

Holotype (US 63929), east coast, Peleliu, Palau, Jan. 27, 1948, Dybas. Allotype (CM), west coast, Peleliu, Palau, Feb. 2, 1948, Dybas. Paratypes (all Palau): Koror, Nov. 21, 1947, Dybas; (BISHOP), NE 40 m., Limestone Ridge, Koror, Dec. 14, 1952, Gressitt; Ngarekeukl (Garukyoku), Peleliu, Jan. 20, 21, 1938; Murakami; Peleliu, Aug. 1, 12, 1945, E. Hagen.

DISTRIBUTION: Western Caroline Is. (Palau).

CANTHARIDAE

Genus **Caccodes** Sharp

Caccodes Sharp, 1885, Roy. Dublin Soc., Trans. II, **3**: 157 [type: *C. oceaniae* (Bourg), n. comb. (*Malthodes*)=*debilis* Sharp, Hawaiian Is.].

Southern India, Japan, Java, Hawaiian Is., Oceania, Mariana Is., Caroline Is., Marquesas Is., Seychelles.

1. **Caccodes marquesanus** (Blair), n. comb. (fig. 1).
Maltypus marquesanus Blair, 1932, B. P. Bishop Mus., Bull. **98**: 243, fig. 55 (type in BISHOP).

Brown to dark brown, head usually rufotestaceous, paler in front, legs pale testaceous, eye black.

Male: Head including eyes wider than prothorax, frons rounded, surface almost completely smooth, imperceptibly, finely punctured, eyes large. Antenna elongate, almost as

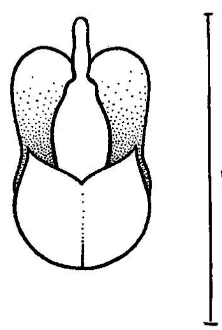


FIGURE 1.—*Caccodes marquesanus*, aedeagus.

long as whole body, segment 1 a little more incrassate and longer than 2, 3 as long as 2, 4 and subsequent of the same length, slightly longer than 3, about as long as 1. Prothorax quadrangular, nearly twice as wide as long, strongly bordered throughout, sides parallel, surface moderately convex, finely granulate. Elytra wider than prothorax, abbreviated, not half the length of abdomen, narrowed behind, almost parallel-sided, but divergent from scutellum. Legs and tarsi slender. Last sternite broadly and deeply excavate.

Female: Eye slightly smaller and antenna somewhat shorter than in male.

Length: 2.5 mm.

DISTRIBUTION: Marquesas, Micronesia.

S. MARIANA IS. SAIPAN: Papako (Papago), May 7, 1945, Dybas; Mt. Tagpochau, 375 m., Feb. 18, 1945, Dybas. TINIAN: Ridge SE section, Mar. 27, 1945, Dybas; Mt. Lasso, NW slope, Mar. 17, 1945, Dybas.

PALAU. BABELTHUAP: Wooded peak SW of Ulimang, beating vegetation, Dec. 1947, Dybas. KOROR: Jan. 18, 1948, Dybas; Mar. 29, 1953, Apr. 24, 1954, Beardsley. NGERGOI (Garakayo): Beating vegetation, Aug. 8, 1945, Dybas. ANGAUR: Aug. 11-12, 1945, Dybas.

CAROLINE ATOLLS. NGULU: Ngulu I., Oct. 3, 1952, Krauss. FAIS: Fais I., Oct. 5, 1952, Krauss. FARAULEP: Faraulep I., Sept. 21, 1952, Krauss. ELATO: Feb. 4, 1953, Beardsley. SATAWAL: Feb. 6, 1953, Beardsley. NAMA: Near Truk, Feb. 15, 1949, Potts. KAPINGAMARANGI: Ringutoru, Aug. 20, 1954, Niering.

PONAPE. Awakpah, Uh (U) Distr., Mar. 2, 1948, Dybas.

KUSAIE. "Hill 1010," 300 m., Apr. 13, 1953, Clarke.

MALACHIIDAE

Genus **Carphurus** Erichson

Carphurus Erichson, 1840, Entomographien **1**: 132 (type: *C. dispar* Erichson, Bintam I., Singapore, *op. cit.* : 133).—Lacordaire, 1857, Gen. Coleopt. **4**: 396.—Lea, 1909, Ent. Soc. London, Trans. **1909**: 186; 1921, Roy. Soc. S. Australia, Trans. **45**: 94.—Champion, 1923, Ann. Mag. Nat. Hist. IX, **12**: 9.

Indo-Australian Region and Australia with over 200 species described so far.

1. Carphurus reductipennis Wittmer, n. sp. (fig. 2).

Black, antenna dark brown with two basal segments rufotestaceous.

Female: Head with eyes only slightly broader than prothorax, long, almost quadrate, somewhat longer than prothorax, frons slightly convex between and above eyes, bi-impressed in front, surface microfasciculate and scattered with quite deep, coarse punctures. Antenna quite short and stout, segment 2 slightly stouter than 3, almost as long as 3, basal portion partially covered by 1, 4 imperceptibly longer than 3, 5 and subsequent longer than 3, 11 longer than 10. Prothorax a little broader than long, sides from middle to base more strongly narrowed than on anterior half, side margins, seen from above, only visible in basal half, basal margin strong, surface convex, puncture almost nonexistent, a few scattered, shallow points visible, in between effaced, transverse, strigose sculpture. Elytra short, ending acutely, not covering wings completely, surface shining, slightly wrinkled. Wings leaving five abdominal segments uncovered. Length: 2.5-2.7 mm.

Male: Unknown.

Holotype (US 63930), 650 m., Mt. Pairot (Beirut), Ponape, June-Sept. 1950, Adams. One female (CM), Marpo Valley, Tinian, S. Mariana Is., Apr. 11, 1945, Dybas.

DISTRIBUTION: Mariana and Caroline Is.

This species is distinct from all the other species by the reduced size of the elytra. When the other sex is known, it will be possible to determine whether this species can remain in *Carphurus*.

The specimen from Tinian Island has a slightly stronger punctured prothorax and more visibly wrinkled elytra. The wings of both specimens seem to be out of their natural position, therefore, in figure 2, only their approximate contours have been indicated.

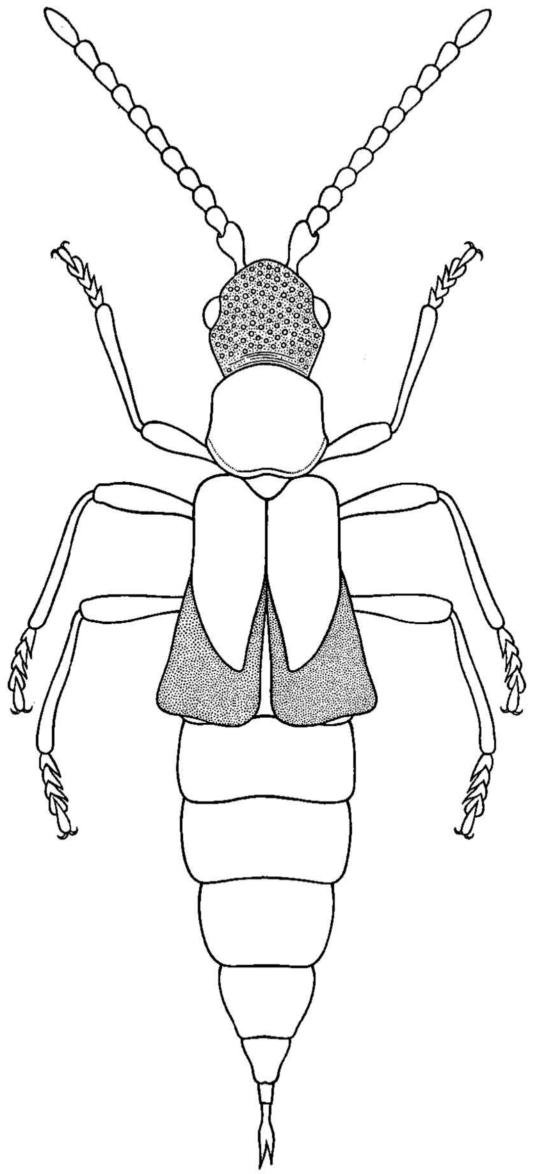


FIGURE 2.—*Carphurus reductipennis.*

Genus **Laius** Guérin-Méneville

Laius Guérin-Méneville, 1830, Voy. Coquille, Ent., 78 (type: *L. cyaneus* Guér., *loc. cit.*, New Guinea).—Erichson, 1840, Entomographien **1**: 62.—Lacordaire, 1857, Gen. Coleopt. **4**: 384.—Peyron, 1877, L'Abeille **15**: 266.—Abeille de Perrin, 1891, Soc. Ent. France, Ann. **60**: 204, 208.—Lea, 1909, Ent. Soc. London, Trans. **1909**: 150.—Champion, 1921, Ann. Mag. Nat. Hist. IX, **7**: 323.

Intybia Pascoe, 1866, Jour. Ent. **2**: 448.

Amanicollops Pic, 1908, L'Echange **24**: 25.

Megadeuterus Westwood, 1933, Linn. Soc. London, Trans. **16**: 678.

Rotamalachius Kono, 1937, Annot. Zool. Japon. **16**: 121.

The species reported from Micronesia belong to the group of *Laius* living on the seashore, at or below high-water mark, where they may be seen running about in sunny weather (Bryant, IN Champion, 1921, Ann. Mag. Nat. Hist. IX, **7**: 325). The same author (1921, *op. cit.*, IX, **8**: 195) cites the following observation made by Mr. Semper in Mindanao, "Lives in cracks and holes of sandstone that reach pretty far out into the sea, quite covered during the flood-tide but dry during the ebb." A similar observation has been made by Dr. R. Paulian on *Laius politus* Fairmaire from Madagascar.

Indo-Australian Region, also described from Japan, Zanzibar, and Madagascar.

Key to Micronesian Species of Laius

1. Size 3.5-3.7 mm. in length, antefrons usually reddish around base of antenna, head longer, antefrons narrower, genae almost straight, antennal joint 1 longer, strongly constricted toward middle and forming obtuse tooth where joint becomes broader again .... **marchei**

   Size 2.7 mm. in length, whole head black with a bluish or greenish metallic luster, antefrons between antenna broader, genae curved, antennal joint 1 shorter without a tooth .... **cyaneus**

2. **Laius marchei** Pic (fig. 3, *a*).

Laius marchei Pic, 1922, Mus. Nat. Hist. Natur. Paris, Bull. **28**: 158.

Rotamalachius esakii Kono, 1937, Annot. Zool. Japon. **16**: 121.—Nakane, 1955, Seto Mar. Biol. Lab., Pub. **4**: 378.

Black, head, prothorax, and elytra with bluish or greenish luster, antefrons around insertion of antenna, lower part of gena, labrum, mouthparts, basal three (including almost invisible second) and basis of fourth antennal segment, red.

Male: Head with eyes narrower than prothorax, upper part of frons convex, between eyes and toward anterior border almost flat, slightly impressed, genae almost straight. Antennal segment 1 almost twice as long as 3, strongly constricted toward middle and furnished with an obtuse tooth externally where joint enlarges, apical part about twice as broad as in middle, 2 invisible, 3 broader than long, deeply hollowed externally (fig. 3, *a*), 4-10 short, rather stout. Prothorax transverse, sides rounded, somewhat more strongly rounded from middle to base than anteriorly. Elytra almost parallel. Head and prothorax

finely and densely punctured, elytra less strongly punctured than the former, microsculptured. Whole surface very densely pubescent, hair short, grayish on head, intermixed with darker hair on prothorax and with still darker hair on elytra. Length: 3.5-3.7 mm.

DISTRIBUTION: S. Mariana Is.

S. MARIANA IS. ROTA: June 6, 1940, Matusita.

3. **Laius cyaneus** Guérin-Méneville (fig. 3, *b*).

Laius cyaneus Guérin-Méneville, 1830, Voy. Coquille, Ent., 78 (Atlas Ins., pl. 2, fig. 10).—Castelnau, 1840, Hist. Nat. Coleopt. **1**: 279.—Motschulsky, 1860, Bull. Moscou **32**: 404.

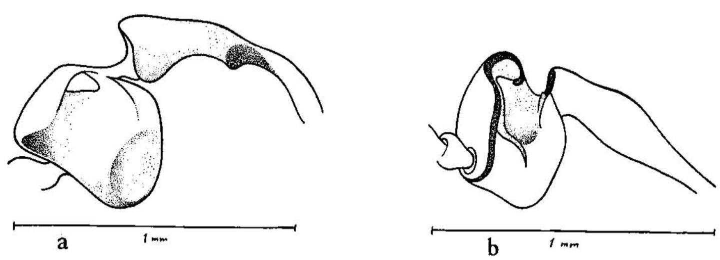


FIGURE 3.—Male, first three antennal segments: **a**, *Laius marchei;* **b**, *Laius cyaneus.*

Malachius heterocerus Boisduval, 1835, Voy. Astrolabe, Coleopt. **2**: 136.

Black with nigro-caeruleous, violaceous or greenish luster, only joints 1 to 3 of antenna (including almost invisible second) testaceous, 3 sometimes partly darkened.

Male: Head with eyes narrower than prothorax, frons slightly convex, indistinctly, transversely impressed before eyes, genae curved. Antennal segment 1 not quite twice as long as 3, 2 invisible, 3 broader than long, deeply hollowed externally (fig. 3, *b*), 4-10 short, rather stout. Prothorax transverse, sides rounded, more strongly rounded from middle to base than anteriorly. Elytra almost parallel. Head and prothorax finely and densely punctured, elytra imperceptibly microsculptured, almost smooth. Whole surface very densely pubescent, short grayish, intermixed with darker, longer hairs. Length 2.7 mm.

DISTRIBUTION: East Indies, New Guinea, Key I., Kanala (New Caledonia), Caroline Is.

KUSAIE. Mutunlik, on beach, Apr. 1, 1953, Clarke.

PRIONOCERIDAE

Genus **Prionocerus** Perty

Prionocerus Perty, 1831, Observ. Coleopt. Indiae, 33.—Castelnau, 1840, Hist. Nat. Coleopt. **1**: 275.—Lacordaire, 1857, Gen. Coleopt. **4**: 411, 412.—Champion, 1919, Ann. Mag. Nat. Hist. IX, **3**: 328.

India, Indochina, Malaysia.

1. Prionocerus caeruleipennis Perty.

Prionocerus tereticollis Stürm, 1826, Cat. Käfers., 170.

Prionocerus caeruleipennis Perty, 1831, Observ. Coleopt. Indiae, 33, pl. 1, fig. 4.—Guérin-Méneville, 1834, Voy. aux Indes Bélanger **1**: pl. 2, fig. 2.—Schaufuss, 1887, Soc. Ent. Ross., Horae **21**: 126.—Bourgeois, 1890, Soc. Ent. France, Ann. **10**: 175.—Champion, 1919, Ann. Mag. Nat. Hist. IX, **3**: 328.—Gressitt, 1939, Lingnan Sci. Jour. **18**: 188, pl. 6, fig. 8.

Prionocerus fuscipennis Lewis, 1879, Ann. Mag. Nat. Hist. V, **4**:464.

Prionocerus brevicornis Schaufuss, 1887, Soc. Ent. Ross., Horae **21**: 126.

Prionocerus forticornis Schaufuss, 1887, Soc. Ent. Ross., Horae **21**: 126.

Prionocerus caeruleipennis var. *diversicollis* Pic, 1920, L'Echange, *hors-texte*, **36**: 12.

Blue, violaceous or green, prothorax red or testaceous, antenna black with last segment often reddish.

Head very elongate, rostriform, surface shining. Antenna short, strongly serrate, apical segment deeply excavate. Prothorax about as long as broad, sides rounded, surface almost smooth with scattered hair punctures. Elytra elongate, slightly broadened in middle, densely rugulose, the seriately arranged setae placed on a very minute, smooth tubercle. Anterior tarsal segments 1 to 3 of male with comb along inner edge. Genital armature with lateral lobes very long, narrow and somewhat hooked at tip, median lobe broad, abruptly acuminate and sinuate at apex. Length 10 mm.

DISTRIBUTION: India, Cochin China, South China, Hainan I., Malaysia, Andaman Is., Celebes, Sumatra, Flores, Amboina, Philippines, Japan, East Africa, Caroline Is.

PALAU. BABELTHUAP: Ngaremlengui (Arumongui), Mar. 13, 1936, Esaki.

YAP. YAP: Nif-Guillifez, Sept. 7, 1939, Esaki.

CAROLINE ATOLLS. FAIS: Fais I., Apr. 28, 1954, Beardsley.